

Table 3–21 summarizes the 2002 annual personnel exposure report for those employees with a measurable dose.

Table 3–21. 2002 Annual Personnel Exposure Summary Report

Employees with Measured Dose	External Dose (gamma) (mrem/yr)	Internal Dose (whole body from radon) (mrem/yr)	Total Effective Dose Equivalent (mrem/yr)
1	0	31	31
2	0	145	145
3	0	150	150
4	13	60	73
5	10	160	170
6	0	115	116
7	0	567	567
8	13	40	53
9	0	216	216
10	0	186	186
11	13	122	135
Average	4.5	163	167

Eleven other employees that participated in the personnel dose monitors did not have any measurable doses. This table indicates that the most significant dose contribution is from the ingestion of radon gas and that doses to workers vary considerably. All doses are below DOE benchmarks of up to 5,000 mrem per year (mrem/yr).

3.1.20 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 FR 7629), directs federal agencies to identify and address, as appropriate, any activities that may affect minority and low-income populations. Minorities are members of the following population groups: Hispanic or Latino, American Indian or Alaska Native, Asian, Black or African American, and Native Hawaiian or Other Pacific Islander. A minority population has been defined as a group in which minorities represent more than 50 percent of the population. Low-income populations are groups with an annual income below the poverty threshold.

Table 3–22 presents the minority and low-income populations in Grand and San Juan Counties. A portion of the Uinta and Ouray Indian Reservation is located in northern Grand County. The Ute Mountain (White Mesa Utes) and the Navajo Reservations are situated along the southern border of San Juan County, and American Indians make up the majority of the population in San Juan County: 57 percent of the 14,413 population base. The Hispanic population in Grand County represents the next largest minority population in either of the two counties (5.6 percent).

Table 3–22 also presents the percentage of persons below the poverty line as defined by the U.S. Department of Commerce. San Juan County has a relatively large percentage of individuals below the poverty line (30 percent) compared to Grand County (18 percent). The county poverty trends from 1989 through 1997 show that the percentage of the population falling below the poverty level increased by 34 percent in Grand County and decreased by 10 percent in San Juan County during that time.

Table 3–22. Minority and Low-Income Populations in Grand and San Juan Counties

Population Group	Grand County	San Juan County
2000 population	8,485	14,413
Percent Hispanic or Latino	5.6	3.7
2000 population by race	8,373	14,195
White Non-Hispanic (percent)	7,861 (94%)	5,876 (41%)
Black or African American (percent)	21 (0.3%)	18 (0.1%)
American Indian (percent)	327 (4%)	8,026 (57%)
Some other race (percent)	164 (2%)	275 (2%)
Percent of people below 1997 poverty level	18	30
Percent change 1989–1997	34	–10

Source: 2000 Census

Demographic information obtained from the U.S. Census Bureau was used to identify low-income and minority populations within 50 miles of the Moab site and the proposed off-site alternatives (Klondike Flats, Crescent Junction, and the White Mesa Mill). This radius is consistent with that used to evaluate collective dose for human health effects from the proposed on-site and off-site disposal of the Moab mill tailings and contaminated material from vicinity properties. Census data are compiled at a variety of levels corresponding to geographic areas. In order of decreasing size, the areas used are states, counties, census tracts, block groups, and blocks. A “block” is geographically the smallest census area; it is usually bounded by visible features such as streets or streams or by invisible boundaries such as city limits, township lines, or property boundaries and offers the finest spatial resolution. Block data were used to characterize minority distribution. Because block data are so specific to the individuals within a block (for example, sometimes only one family may live in a block), income data are available only at the block group level and above. For this reason, block group data were used to identify low-income populations.

Demographic maps were prepared using 2000 census data for minority populations and for low-income populations. [Figure 3–23](#) shows census blocks with minority populations that are more than 50 percent within 50 miles. The nearest block occurs about 20 miles south of Moab.

The poverty level established by the Census Bureau for 2000 for a family of four is \$18,244. [Figure 3–24](#) shows average household income for the year 2000. Assessment of the census data determined that within the 50-mile area, less than 1 percent of the population had a household income below the poverty level.

3.2 Klondike Flats Site

The proposed Klondike Flats disposal site (Klondike Flats site) is located about 18 miles northwest of the Moab site and just west of US-191. It is remote from populations and behind a low bluff such that the Klondike Flats site is not visible from the highway.

Air quality in this area would be considered similar to and likely better than air quality at the Moab site. There are no major sources of pollutants and no developed industries; regular vehicle use does not occur in the area under consideration. The Moab region is classified as an attainment area under the NAAQS; therefore, the Klondike Flats site is also considered to be an attainment area according to these standards, and air quality is not considered further.